In The Claims:

Please amend the claims as follows:

1. (Original) A method for channel decoding and error correcting modulated data reproduced from an optical disc comprises the steps of:

(a) setting a channel code including channel data patterns of channel data symbols and information data symbols which correspond to respective channel data patterns;

(b) producing demodulated data including the information data symbols and erasure flags by demodulating the channel data symbols, using the channel code; and

(c) performing error-erasure correction on the information data symbols produced in the step (b), using error locations indicated by the erasure flags having a predetermined value,

wherein the step (b) of producing demodulated data comprises the steps of;

(b1) outputting the information data symbols if the channel code has the information data symbols corresponding to the channel data patterns; and

(b2) outputting erasure symbols as the information data symbols and setting the erasure flags to the predetermined value if the channel code has no information data symbols corresponding to the channel data patterns.

2. (Currently Amended) The method of claim 1, wherein each of the erasure symbols is one of the information data symbols in the channel code or a predetermined value.

3. (Original) The method of claim 1, wherein the channel code is one of an EFM code and an EFM+ code.

4. (Original) The method of claim 3, wherein the demodulated data includes 8-bit information data symbols and 1-bit erasure flags.

5. (Original) A system for channel decoding and error correcting modulated data reproduced from an optical disc comprises:

a channel decoder, including a channel code having channel data patterns that channel data symbols can have and information data symbols which correspond individually to the channel data patterns, and for producing demodulated data having the information data symbols and erasure flags by demodulating the channel data symbols, using the channel code.

a memory for storing the demodulated data outputted from the channel decoder; and

a decoding unit for performing an error-erasure correction on the information data symbols, using error locations indicated by the erasure flags having a predetermined value,

wherein the channel decoder outputs the information data symbols if the channel code has the information data symbols corresponding to the channel data patterns, and the channel decoder outputs erasure symbols as the information symbols and sets the erasure flags to the predetermined value if the channel code has no information data symbols corresponding to the channel data patterns.

6. (Original) The system of claim 5, wherein each of the erasure symbols is one of the information data symbols in the channel code or a predetermined value.

7. (Original) The system of claim 5, wherein the channel code is one of an EFM code and an EFM+ code.

8. (Original) The system of claim 7, wherein the demodulated data includes 8-bit information data symbols and the 1-bit erasure flags.

9. (Currently Amended) The system of claim 5, wherein the decoding unit includes:

a means for receiving from the memory code words obtained from the demodulated data;

a means for detecting a code word having ~~errors~~ more than a predetermined number _of errors_; and

8

a means for providing second erasure flags of a predetermined value to information data symbols of the detected code word.

10. (Original) The system of claim 9, wherein the predetermined number is two (2) for a compact disc (CD) system or five (5) for a digital versatile disc (DVD) system.

11. (Original) The system of claim 9, further including:

a means for deinterleaving data from the decoding unit to generate deinterleaved code words containing the information data symbols and the second erasure flags; and

a second decoding unit for performing error-erasure correction on the information data symbols of the deinterleaved code words using the second erasure flags.

12. (Currently Amended) A method for correcting errors and erasures in modulated channel data reproduced from an optical disc, comprising the steps of:

providing a channel code having channel data patterns of the modulated channel data and information data symbols corresponding to the channel data patterns, respectively;

comparing channel data symbols of the modulated channel data with the channel data patterns in the channel code;

producing information data symbols corresponding to channel data patterns of the channel data symbols to form demodulated data;

9

producing erasure symbols with erasure flags to form the demodulated data when the channel code has no channel data patterns matching the channel data symbols;

providing code words obtained from the demodulated data; and

correcting ~~errors and~~ erasures and then actual errors in the code words using the erasure flags.

13. (Original) The method of claim 12, wherein the channel code is an EFM code for a compact disc (CD) system and an EFM+ code for a digital versatile disc (DVD) system.

14. (Currently Amended) The method of claim 12, further including the steps of:

detecting a code word having ~~errors~~ more than a predetermined number of errors; and

providing second erasure flags of a predetermined value to the detected code word.

15. (Original) The method of claim 14, wherein the second erasure flags are provided to the detected code word such that each of the second erasure flags is attached to each of information data symbols or erasure symbols of the detected code word.

16. (Original) The method of claim 14, further including the steps of:

deinterleaving the code words on which the correcting step has been performed;

and

correcting errors and erasures in the deinterleaved code words by locating

defective symbols using the second erasure flags.

17. (Newly Submitted) A system for error-erasure correcting modulated data

reproduced from an optical disc, the system comprising:

a demodulator for receiving channel code symbols and demodulating each valid

channel code symbol into an information data symbol, providing an arbitrary information

data symbol for each invalid channel code symbol, and setting a first single-bit erasure

flag for each invalid channel code symbol;

a first buffer in signal communication with the demodulator for receiving the

information data symbols and corresponding first erasure flags, and composing a first

code word including a plurality of information data symbols and their corresponding first

erasure flags; and

a first error-erasure decoder in signal communication with the first buffer for

receiving the first code word, checking for erasures by performing a single-bit operation

on all of the first single-bit erasure flags of the received first code word, and if any

erasures are detected, correcting up to a first maximum number of correctable erasures

and then correcting a number of actual errors not to exceed one half of the first

maximum number of correctable erasures reduced by one half of the number of

11

corrected erasures, and if no erasures are detected, correcting only actual errors of the first code word.

18. (Newly Submitted) A system as defined in Claim 17 wherein, if the original number of erasures indicated by the first single-bit erasure flags of the first code word exceeds the first maximum number of correctable erasures, the first error-erasure decoder sets a corresponding second single-bit erasure flag for each uncorrected erasure, and if the number of post-erasure-correction actual errors exceeds one half of the first maximum number of correctable erasures reduced by one half of the number of corrected erasures, the first error-erasure decoder sets the second single-bit erasure flag for each information data symbol of the first code word.

19. (Newly Submitted) A system as defined in Claim 18, further comprising:

a second buffer in signal communication with the first error-erasure decoder for receiving the information data symbols of the first code word along with their corresponding second single-bit erasure flags from the first error-erasure decoder and composing a second code word including a plurality of information data symbols and their corresponding second single-bit erasure flags; and

a second error-erasure decoder in signal communication with the second buffer for receiving the second code word, checking for erasures by performing a single-bit operation on all of the second single-bit erasure flags of the received second code word, and if any erasures are detected, correcting up to a second maximum number of

12

correctable erasures and then correcting a number of actual errors not to exceed one half of the second maximum number of correctable erasures reduced by one half of the number of corrected erasures, and if no erasures are detected, correcting only actual errors of the second code word.

20. (Newly Submitted) A system as defined in Claim 19 wherein, if the number of erasures indicated by the second single-bit erasure flags of the second code word exceeds the second maximum number of correctable erasures, the second error-erasure decoder sets the information data symbol of the second code word to an erasure symbol for each uncorrected erasure, and if the number of post-erasure-correction actual errors exceeds one half of the second maximum number of correctable erasures reduced by one half of the number of erasures corrected by the second error-erasure decoder, the second error-erasure decoder sets each information data symbol of the second code word to an erasure symbol.